OFFICIAL COPY.

HYDROGRAPHIC NOTICE.

[No. 6 of the year 1888.]

Notice No. 1 relating to the

FIFTH EDITION (1882)

of the

ST. LAWRENCE PILOT, VOL. I.

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.

LONDON:
PRINTED FOR THE HYDROGRAPHIC OFFICE, ADMIRALTY,
AND SOLD BY
J. D. POTTER, Agent for the sale of Admiralty Charts,
31, Poultry, and 11, King Street, Tower Hill.
1888.

Price 4*d.*

F5012 .188 .G7B6

The EDITH *and* LORNE PIERCE
COLLECTION *of* CANADIANA



Queen's University at Kingston

The information contained in this Notice is to be carefully considered, to be noted in the Sailing Directions, and compared with the chart when the ship is navigating the parts to which it refers.

The existence of this Notice is to be entered on the opening page of St. Lawrence Pilot, Vol. I.

One copy is supplied for cutting up and inserting in the pages affected of that book.

Hydrographic Notice.

[No. 6 of the Year 1888.]

Notice No 1.,

For later information respecting the Lights which are described in St. Lawrence Pilot, Vol. I., seamen should consult the Admiralty List of Lights on the Eastern Shores of North America and Central America. This Light List is published early in the current year, corrected to the preceding 31st December.

relates to lights prior to 31st December 1887, which will be found in the Light List for 1888).

(All bearings are Magnetic. Variation in 1888.*)*

Heath point, Anticosti island	29° 15′ W.	Coudres island	19° 45′ W.
Gaspé bay	27° 0′ W.	L'Islet	19° 5′ W.
Father point	22° 45′ W.	Madame island	18° 25′ W.

UNIFORM SYSTEM OF BUOYAGE.—Throughout the ports and channels of the Dominion of Canada, approaching from seaward, all buoys on the starboard side of the channel are painted red, and, if numbered, marked with even numbers, and must be left on the starboard hand.

Approaching from seaward, all buoys on the port side are painted black, with odd numbers, if any, and must be left on the port hand.

S.O. 10711.—800.—6/88. Wt. 4894. D. & S.

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Hydrographic Notice.

[No. 6 of the Year 1888.]

Notice No 1.,

Relating to the Fifth Edition (1882) of the

ST. LAWRENCE PILOT, VOL. I.

The following information, relating to the Northern parts of the gulf of St. Lawrence, and the river St. Lawrence, below Quebec, is derived chiefly from surveys and reports by Staff-Commander W. F. Maxwell, R.N.; also, from Notices published by the Government of the Dominion of Canada to 1888.

The paragraphs are arranged in the order of the paging of St. Lawrence Pilot, Vol. I., fifth edition, 1882 ; the pages referred to will be found herein in the margin.

(This Notice contains all the information that has been published since the issue of St. Lawrence Pilot, Vol. I., fifth edition, 1882 ; in Notice to Mariners up to No. 119 of 1888 inclusive, except such as relates to lights prior to 31st December 1887, which will be found in the Light List for 1888).

(All bearings are Magnetic. Variation in 1888.*)*

Heath point, Anticosti island	29° 15′ W.	Coudres island	19° 45′ W.
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S.O. 10711.—800.—6/88. Wt. 4894. D. & S.

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Buoys painted red and black, in horizontal bands, mark obstructions or middle grounds, and may be left on either hand.

Buoys painted white and black in vertical stripes mark midchannel, and must be passed close to, to avoid danger.

All other distinguishing marks to buoys are in addition to the foregoing, and indicate particular spots; a detailed description of which is given when the mark is first established.

Perches with balls, cages, &c., will, when placed on buoys, be at turning points, the colour and number indicating on which hand they are to be left.

Starboard hand spar buoys, entering channels or harbours, will, in some cases, be surmounted by a ball; these buoys will always be painted red.

The rule for colouring buoys is equally applicable to beacons and other day marks, so far as it may be practicable to carry it out.**

Telegraph and Signal Stations.—The following stations of the Marine Telegraph System, established in the gulf of St. Lawrence in the interests of navigation and fisheries, are now in operation.

Name of Station.	Signals in use.	Situation.
*Bird rocks lighthouse	Flags	Magdalen islands.
*Grosse isle telegraph office ...	Flags	do.
*Etang du Nord lighthouse ...	Flags	do.
*Amherst island lighthouse ...	Flags	do.
*Heath point lighthouse	Flags	Anticosti island.
*South point lighthouse	Flags	do.
*South-west point lighthouse ...	Flags	do.
*West point lighthouse	Flags	do.
Cape Despair lighthouse... ...	Flags	Western shore, gulf of St. Lawrence.
Point Maquereau lighthouse ...	Flags	do.
Point des Monts lighthouse ...	Flags	Northern shore of river and gulf of St. Lawrence.
Manicouagan telegraph station	Flags	do.
Portneuf lighthouse	Flags	do.
Cape Rosier lighthouse	Flags	Southern shore of river and gulf of St. Lawrence.
Fame point lighthouse	Flags	do.
Cape Magdalen lighthouse ...	Flags	do.
Martin river lighthouse	Flags	do.
Cape Chatte lighthouse	Flags	do.
Matane lighthouse	Flags	do.
Little Metis lighthouse	Flags	do.
Father point lighthouse	Flags	do.
Brandy pots lighthouse	Semaphore and Flags.	do.
Rivière du Loup lighthouse ...	Semaphore and Flags	do.
L'Islet telegraph office	Flags	do.

** Originally published in Notice to Mariners, No. 244 of 1884; on authority of Deputy Minister of Marine, Ottawa, 1st December, 1879.

Buoys painted red and black, in horizontal bands, mark obstructions or middle grounds, and may be left on either hand

Buoys painted white and black in vertical stripes mark mid-channel, and must be passed close to, to avoid danger.

All other distinguishing marks to buoys are in addition to the foregoing, and indicate particular spots: a detailed description of which is given when the mark is first established

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*Gross isle telegraph office ...	Flags	do.
*Rang du Nord lighthouse ...	Flags	do.
*Amherst island lighthouse ...	Flags	do.
*Heath point lighthouse ...	Flags	Anticosti Island
*South point lighthouse ...	Flags	do.
*South-west point lighthouse ...	Flags	do.
*West point lighthouse ...	Flags	do.
Cape Despair lighthouse ...	Flags	Western shore, gulf of st. lawrence.
Point Maquereau lighthouse ...	Flags	do.
Point des Monts lighthouse ...	Flags	Northern shore of river and gulf of St. Lawrence.
Manicouagan telegraph station	Flags	do.
Portneuf lighthouse	Flags	do.
Cape Rosier lighthouse	Flags	Southern shore of river and gulf of St. Lawrence.
Traine point lighthouse ...	Flags	do
Cape Magdalen lighthouse ...	Flags	do
Martin river lighthouse	Flags	do
Cape Chatte lighthouse	Flags	do
Mitane lighthouse ...	Flags	do
Little Metis lighthouse	Flags	do.
Father point lighthouse	Flags	do
Branchy-pora lighthouse	Semaphore and Flags	do
Rivière du Loup lighthouse ..	Semaphore and Flags	do.
L'Islet telegraph office ...	Flags	do

** Originally published in Notice to Mariners, No. 244 of 1881: on authority of Deputy Minister of Marine, Ottawa, 1st December, 1879

1. Vessels exhibiting their distinctive numbers will have their names transmitted to the local press, for publication only, free of charge.

2. Despatches to or from vessels within signalling distance by the International code of all nations, either by flags or semaphores, will be duly delivered as addressed.

3. Despatches will be charged for at the ordinary telegraph rates, between stations ; but no charge will be made for signalling between coast stations and vessels at sea.

4. Despatches may (by special request) be delivered in cipher, otherwise they will be transmitted in ordinary language.

5. Vessels may obtain information as to winds, weather and ice at any signal station within the gulf of St. Lawrence *free* of charge.

6. The stations marked thus (*) are kept specially informed respecting the state of navigation in the river and gulf of St. Lawrence during the months of April and May. †

ICE IN CABOT STRAIT.—This strait is never frozen over, but vessels built in the ordinary way cannot navigate it in safety between 1st January and 1st May, on account of the heavy drift ice, and frequently not until later, on account of the block caused by the "Bridge."

Sealing steam vessels pass through at all times, but are occasionally fast in the ice for days together.

Nearly every year the great rush of ice out of the gulf of St. Lawrence in the spring, causes a stoppage, locally known as "the Bridge," between St. Paul island and cape Ray. The "Bridge" sometimes lasts for two or three weeks, and completely prevents the passage of ships ; it is recorded that three hundred sail have at one time been detained by this obstacle, and many wrecks have occurred in consequence, on the Newfoundland coast.

The usual time of the formation of the "Bridge" is between the middle and end of April to the middle of May.

CURRENTS.—The currents in the gulf of St. Lawrence are fully described in the St. Lawrence Pilot, Vol. I., Chapter 2. It has been reported that between Magdalen islands, Anticosti island, and cape Rosier, the current sets almost constantly to the north-eastward, and several wrecks are said to have occurred on Anticosti island in consequence ; but it appears from the observations of the Admiralty Surveyors that the current in the above locality is governed

p. 10.

† Ottawa Notice, No. 5 of 1886.

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CURRENTS.—The currents in the gulf of St. Lawrence are p. 10. fully described in the St. Lawrence Pilot, Vol. I., Chapter 2. It has been reported that between Magdalen islands, Anticosti island, and cape Breton, the current sets almost constantly to the north-eastward, and several wrecks are said to have occurred on Anticosti island in consequence; but it appears from the observations of the Admiralty Surveyors that the current in the above locality is governed

† Ottawa Notice No. 5 of 1878.

principally by the wind, and it only sets north-eastward when south-westerly winds prevail. Approaching Anticosti island, especially from the eastward, soundings should be obtained until a vessel's position has been accurately determined, especially as sometimes, owing to peculiar atmospheric conditions, the island is said to be difficult to distinguish, even when the weather is moderately clear.

MAGDALEN ISLANDS.—Amherst Harbour.—Ice.—The harbour is usually frozen over about 1st January, and clear of ice about 10th May, being completely closed between 1st January and 12th May. Field ice generally drifts in towards the shores of the island about 15th January, and disappears about 12th May. The first vessel arrives from sea about 10th May, and the last one leaves about 17th December. p. 49.

American Bank, on which H.M.S. *Northampton* found a depth of $7\frac{1}{4}$ fathoms, is reported by the local fishermen to have a least depth of 5 fathoms; this bank is situated with cape Gaspè lighthouse, bearing N. 25° W., distant 11 miles, and cape Despair lighthouse S. 80° W.* p. 72.

GASPÈ HARBOUR.—Ice.—The harbour is usually frozen over about 10th December, the entrance not until 25th December, and is clear of ice about 10th May, being completely closed between the last two dates. The first vessel arrives from sea about 11th May, and the last one leaves about 6th December. p. 75.

MATANE RIVER.—Buoy.—A can buoy painted black is moored in 7 fathoms, and about 7 cables off shore, northward of the entrance to Matane river; from this buoy Matane lighthouse bears S.W. $\frac{1}{2}$ S., and Matane wharf S. $\frac{1}{2}$ W.† p. 83.

Cock point.—Buoy.—A can buoy, painted black, is moored in 5 fathoms, northward of Cock point, to indicate the edge of the shoal ground off that point. p. 86.

FATHER POINT.—Ice.—The river has never been known to freeze over at Father point. Drifting field ice usually arrives about 9th December, and disappears about 2nd April; there is rarely any heavy ice until the end of December; and always a channel of open water, either on the north or the south side of the river, according to the prevailing wind, a light air of 6 or 7 miles velocity being p. 86.

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* Staff-Commander J. B. Johnson, R.N., H.M.S. *Northampton*, July 1885. *See* Admiralty Chart, gulf of St. Lawrence, and the river to Quebec, No. 2516.

† Originally published in Notice to Mariners, No. 119 of 1888. *See* Admiralty Charts, river St. Lawrence, Sheet I., No. 311; and cape Chatte to Bic island, No. 309.

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MAGDALEN ISLANDS.—Amherst Harbour.—Ice.—The p. 49
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American Bank, on which 6 M.S. 1/2 Mercury found a depth p. 72
of 17 fathoms, is reported by the local fishermen to have a least depth of 5 fathoms: this bank is situated with cape Despair Hightowse bearing S. 25° W., distant 11 miles, and cape Dorsale Hightowse N. 30° W.*

CASPÉ HARBOUR.—Ice.—The harbour is usually frozen p. 75
over about 10th December, the entrance not until 25th December, and is clear of ice about 10th May, being completely closed between the last two dates. The first vessel arrives from sea about 11th May, and the last one leaves about 6th December.

MATANE RIVER.—Buoy.—A iron buoy painted black is p. 83
moored in 7 fathoms, and about 7 cables off shore, north-east of the entrance to Matane river: from this buoy Matane Hightowse bears S. W. 1/2 S., and Matane wharf S. 1/2 W.†

Cock point.—Buoy.—A cask buoy, painted black, is moored in p. 86.
5 fathoms northward of Cock point, to indicate the edge of the shoal ground off that point.

FATHER POINT.—Ice.—The river has never been known to p. 86.
freeze over at Father point. Drifting field ice usually arrives about 5th December, and disappears about 2nd April; there is rarely any heavy ice until the end of December; and always a channel of open water, sufficient for boats to land on the south side of the river, according to the prevailing wind, a little ice of 6 or 7 miles velocity being

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* Sailing-Directions for the River St. Lawrence, and the Gulf of St. Lawrence. July 1858. No. 2.

† Official publication in Notice to Mariners, No. 119 of 1858. By Admiralty Chart No. 2. Lawrence River, No. 311: and Hydrographic Office, Washington.

strong enongh to drive the ice to mid-channel. The river is often clear of ice for a month at a time in winter, and is partly clear for about half that season. There is less ice than usual at Father point whenever the "ice bridge" forms at Quebec. The first vessel arrives at Father point from sea about 24th April, and the last one leaves about 28th November.

Rimouski.—The European mails are landed and shipped at Rimouski, special trains running with them to and from Quebec and Halifax by the Inter colonial railway. Both mails and passengers are transhipped by a steam tender, the mail steam-vessels stopping about two miles from the pier. The anchorage off Rimouski is not good.*

Coal.—Only sufficient coal for the supply of the tender to the mail steam-vessels is kept at Rimouski.

GREAT MECATTINA ISLAND.—Flat Island.—A beacon, constructed of wood, pyramidal in shape, surmounted by a cone, with a vane, the whole 34 feet high, and painted white, has been erected on Flat island, south-eastward of the south point of Great Mecattina island. † p. 152.

HARE ISLAND, NORTH REEF.—Light and bell buoy.— A light and bell buoy, painted red, and showing a *fixed white* gas light, is moored in 8 fathoms, eastward of the north-eastern extreme of Hare island north reef.‡ p. 234.

MIDDLE GROUND situated E.S.E., distant 2 miles from the south-west extreme of Hare island, is marked by a buoy, painted red. The buoy, painted red and black, previously moored south-westward of Middle ground has been withdrawn.§ p. 236.

BARRETT LEDGES.—Light and bell buoy.—A light and bell buoy, chequered black and white, and showing a *fixed white* gas light, is moored in $2\frac{1}{2}$ fathoms, on the eastern end of Barrett ledges.§ p. 237.

MIDDLE SHOAL is marked by a buoy painted red and black in horizontal stripes.§ p. 237.

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* *See* Admiralty Charts, gulf of St. Lawrence, &c., No. 2516; and cape Chatte to Bic island, No. 309.

† *See* Admiralty Charts, Cow Head harbour to St. Geneviève bay, &c., No. 284; and gulf of St. Lawrence, Sheet II., Esquimaux islands to Lake island, No. 1431.

‡ *See* Admiralty Charts, river St. Lawrence, Sheet II., &c., No. 312, and Bic island to Quebec, No. 310.

§ *See* Admiralty Chart, Bic island to Quebec, No. 310.

strong enough to drive the ice to mid-channel. The race is often clear of ice for a month at a time in winter, and is rarely clear for about half that season. There is less than usual at Tailor point this winter, the "Ice bridge" forms at Upsalon. The first vessel arrives at Tailor point from sea about 25th April, and the last one leaves about 20th November.

BIMONSKI.—The Kronprinz mails are landed and shipped at Bimonski, special crane running with them to and from Quebec and Halifax by the Tailor colonial railway. Both southward passengers are disembarked by a steam launch, the mail steam-vessels stopping about one mile from the pier. The passage to Bimonski is one hour.*

COAL.—Only sufficient coal for the supply of the locality is the usual stock-in-trade in shop at Bimonski.

GREAT MEGATTINA ISLAND.—Flat Island.—A lighthouse is constructed of wood, provided by cargo steamboat for a crew, with a tank, the whole 34 feet high, and painted white, has been erected on Flat island, south-eastern end of the south point of Great Megattina Island.†

HARE ISLAND, NORTH REEF.—Light and bell buoy.—A 1-ton and bell buoy, painted red, and showing a fixed white light, is moored in 3 fathoms, mid-way of the north-eastern extreme of Hare Island north reef.‡

MIDDLE GROUND is moored R.B.L., distant 2 miles from the south-west extreme of Hare island, in position in a bay, painted red. The buoy, painted red and black, previously moored south-eastward of Middle ground has been withdrawn.§

BARRETT LEDGES.—Light and bell buoy.—A light and bell buoy, chequered black and white, and showing a fixed white light, is moored in 25 fathoms, on the eastern end of Barrett ledges.‖

MIDDLE SHOAL is marked by a buoy painted red and black in horizontal stripes.¶

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* See Admiralty Charts, Gulf of St. Lawrence, Sheet II. No. 3a, and the Canada Pilot, Section X.—Ed.

† See Admiralty Charts, Cape Race Harbour to St. Lawrence Bay, No. 3a, and the Canada Pilot, Section X.—Ed.

‡ See Admiralty Charts, Cape Race Harbour to St. Lawrence Bay, No. 3a, and the Canada Pilot, Section X.—Ed.

§ See Admiralty Chart, No. [illegible] to Cape Race Harbour, No. 3a, and the Canada Pilot, Section X.—Ed.

‖ See Admiralty Chart, No. [illegible] to St. Lawrence Bay, No. 3a, and the Canada Pilot, Section X.—Ed.

¶ See Admiralty Chart, No. [illegible] to St. Lawrence Bay, No. 3a.

PILGRIM SHOAL.—Light buoy.—The black buoy moored on the north-western side of Pilgrim shoal exhibits a *fixed white* gas light. p. 240.

SOUTH CHANNEL.—*Omit*, vessels of the largest draught may ascend by it, to Quebec, at all times of tide. p. 259.

NORTH CHANNEL* was formerly in general use, but it is now little known to the majority of the pilots. It is broader than South channel, but the tides are much stronger, and the Narrows at its western end have a depth of only 24 feet at low water; while, with the exception of in the contracted passage westward of Beaujeu bank, there are not less than 28 feet in South channel. p. 260.

Starting with the beginning of a fair tide, a steam-vessel may, however, gain an hour in the passage from Green island to Quebec, by taking North rather than South channel.

The anchorage generally in North channel is not good, the bottom being foul from St. Paul bay westward to cape Maillard, also because of the strength of the tidal streams. Vessels may, however, anchor on the northern edge of the bank, southward of the channel, in a depth of about 10 fathoms.

Between Coudres island, and the northern shore of the river, there is anchorage only in Prairie and St. Paul bays, both of which afford security under all conditions of wind and weather, but with northerly winds heavy squalls sweep down from the north shore hills.

ORLEANS CHANNEL has a good passage for small vessels, but is not available for those of large draught. It is marked by red buoys on the northern side, and by black buoys on the southern side. p. 261.

SOUTH CHANNEL. — The southern shore of the river St. Lawrence, from St. Roque point to St. Thomas, is low, and composed of slate; inland it rises gradually in a series of ridges to a long wooded range, which is $4\frac{1}{2}$ miles distant from the river, and attains an elevation of 1,220 feet. The houses are almost continuous on this shore, with villages near the churches. Supplies in small quantities may generally be obtained at the villages, with the exception of coal.† p. 261.

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* The following information on the Traverses of the river St. Lawrence is from a survey and remarks by Staff-Commander W. F. Maxwell, R.N., 1885-6. *See* Admiralty Chart, The Traverses, No. 318.

† *See* Admiralty Plan, The Traverses, No. 318; scale $m = 1{\cdot}36$ inches.

PILGRIM SHOAL.—Light buoy.—The black buoy moored p. 210.
on the north-western side of Pilgrim shoal exhibits a fixed white gas light.

SOUTH CHANNEL.—Only vessels of the largest draught may p. 220.
proceed by it, to Quebec, at all times of tide.

"NORTH CHANNEL" was formerly in general use, but it is now p. 220.
little known to the majority of the pilots. It is broader than South channel, but the tides are much stronger, and the Narrows at its western end have a depth of only 21 feet at low water: which, with the exception of in the contracted passage westward of Bersimis bank, there are not less than 25 feet in South channel.

Starting with the beginning of a flor tide, a steam-vessel may, however, gain an hour in the passage from Green island to Quebec, by taking North rather than South channel.

The anchorage generally in North channel is not good, the bottom being foul from St. Paul bay westward to cape Maillard, also because of the strength of the tidal stream. Vessels may, however, anchor on the northern edge of the bank, southward of the channel in a depth of about 10 fathoms.

Between Crofton island and the northern shore of the river, there is anchorage only in Pentic and St. Paul bays, both of which afford security under all conditions of wind and weather, but with northerly winds heavy squalls sweep down from the north shore hills.

ORLEANS CHANNEL has a good passage for small vessels; p. 220.
but is not available for those of large draught. It is marked by red buoys on the northern side, and by black buoys on the southern side.

SOUTH CHANNEL.—The southern shore of the river p. 208.
St. Lawrence, from St Regne point to St. Theresa, is low, and composed of slate; inland it rises gradually in a series of ridges to a long wooded range, which is 14 miles distant from the river, and attains an elevation of 1,220 feet. The borders are almost continuous on this shore, with villages near the churches. Supplies in small quantities may generally be obtained at the villages, with the exception of coal.†

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* The following information on the Traverses of the river St. Lawrence is from a survey and remarks by staff-Commander *W. E. Maxwell*, R.N., 1865-6. See Admiralty Chart. The Traverses, No. 318.

† See Admiralty Plan, The Traverses, No. 318; scale 6 = 1 inches.

Churches.—The churches at St. Jean Port Joli, St. Eugène, St. Ignace, St. Thomas, and Berthier have each one spire; those at St. Roque and L'Islet have each two spires.

Piers.—The pier at St. Jean Port Joli has a depth of 3 feet at low water at its outer end; at L'Islet the pier is 1,200 feet long, with a depth of 7 feet at low water close to its outer end; a wooden frame beacon, painted black, stands on the extremity of this pier. A small pier has been erected at Anse à Giles, $3\frac{1}{2}$ miles south-westward from L'Islet, and another $1\frac{1}{4}$ miles south-westward of cape St. Ignace, but both dry at about half tide. There is also a wharf on the eastern side of cape St. Ignace, but it can only be approached at or near high water.

Shoals.—Two shoals, with depths of 4 and 7 feet over them, reported to have been formed since L'Islet pier was built, lie in the line of that pier, distant $1\frac{1}{2}$ and 3 cables respectively from its outer end. Shoals, each with a depth of 6 feet, are situated N.N.E., distant $2\frac{1}{4}$ cables; W. $\frac{3}{4}$ N., half a mile; W. $\frac{3}{4}$ S., $4\frac{3}{4}$ cables; and W. by S. $\frac{5}{8}$ S., distant 2 miles respectively from the extremity of L'Islet pier.

Life-boats are stationed at L'Islet and St. Ignace, to rescue the crews of vessels caught in the ice during the autumn.

Railway and Telegraph.—St. Jean Port Joli, L'Islet, St. Ignace, and St. Thomas are connected with Quebec and Halifax by the Intercolonial Railway, which runs along the right bank of the St. Lawrence about one mile inland from those villages. The railway stations are also connected with all parts of Canada and the United States by telegraph.

Trois Saumons River nearly 4 miles south-westward of St. Jean Port Joli, has a large saw mill near its mouth. This river, also the stream at port Joli, one mile north-eastward, will admit small craft at about half-tide.

L'Islet.—A conspicuous cross is erected on a cliff, 59 feet high, situated one mile north-eastward of L'Islet church.

The telegraph and signal station at L'Islet is distant $1\frac{1}{2}$ cables north-eastward of the church, and close westward of the convent, which is a square stone building surmounted by a turret.

St. Ignace.—The church is $6\frac{1}{4}$ miles south-westward from L'Islet, and nearly three quarters of a mile south-eastward of cape St. Ignace, which is a conical rocky mound, 52 feet high, covered with small bushes.

Charlevoix.—Two channels at St. Anne Isle, viz., St. Urgeby Island, to Tibbo, and Portelle Isle each one eighth; these to Goupil and L'Islet over each two eighths.

Pilots.—The pilot at St. Anne Isle (at mid-channel depth of 3 fathoms at low water) to Goupil only, or L'Islet (the pilot to L'Islet being also a pilot of L'Islet to Goupil) to the entry and; a wooden screw steaming vessel (small) inside or the outside, or this pilot. A small pilot-boat is stationed at Anne Island. By order of the Harbour Master at Quebec all pilots over-crowded of cape St. Ignace, but only at about half rate. There is also a pilot on the eastern side of cape St. Ignace, but it can only be depended on to steer him down.

Shoals.—Two shoals, with depths of 4 and 7 feet over them, at the entrance of Goupil Island Island, also L'Islet pier was built in the line of the pier distant 12 and 3 fathoms respectively from the pier end. Shoals with depths of 5 feet respectively N.N.E., distant ½ cables; W. ½ S., half a cable; W. ½ N., 1½ cables; and W. by N. ½ N., distant 3 cables respectively from the easternmost of L'Islet pier.

Lighthouses are mentioned at L'Islet and St. Ignace, to pursue the course at present small in the following observations.

Railway and Telegraph.—St. Ann Port Joly, L'Islet, St. Ignace, and St. Thomas are connected with Quebec and Halifax by the intercolonial Railway, which runs along the west bank of the St. Lawrence about one mile inland from these villages. The railway stations are also connected with all parts of Canada and the United States by telegraph.

Trois Saumons River (mouth), 4 miles south-westward of St. Ann Port Joly, has a large but small bar at mouth. This river, like the others at Port Joly, has a mile north-westward will admit small coasting vessel at half-tide.

L'Islet.—A conspicuous cross is erected on a cliff 50 feet high, situated one mile north-westward of L'Islet church.

The telegraph and signal station at L'Islet is distant 1½ miles north-westward of the church, and close west end of the convent, which is a square stone building surmounted by a tower.

St. Ignace.—The church (R.C.) is one south-westward from L'Islet, and nearly three quarters of a mile south-eastward of cape St. Ignace, which is a conical rocky mound, 82 feet high, covered with small bushes.

St. Thomas.—Two rivers unite and discharge their waters here, Bras St. Nicholas flowing from the eastward, and rivière du Sud from the westward. The combined streams fall, in a cascade about 30 feet high, to a small bight, one-third of a mile eastward of the church. A saw mill is in operation on the eastern side of the falls. St. Thomas church is situated on the left bank of rivière du Sud, $5\frac{1}{4}$ miles south-westward from St. Ignace.

The channel from St. Thomas to the river St. Lawrence trends north-easterly in one bend, and is generally marked by cask buoys. It nearly dries at low water.

The high water bank near St. Thomas has receded considerably since the survey of 1827, about 600 feet apparently having been washed away, and each year more is broken away by ice and sea. The low-water line, however, is nearly the same as at that date, except that boulders are now visible, at low water, beyond the north-eastern extreme of St. Thomas bank.

LOWER TRAVERSE LIGHT-VESSEL shows two *fixed white* lights, one from each masthead. The vessel is painted white, with the words *Lower Traverse* in black letters on her sides.* p. 262.

UPPER TRAVERSE LIGHT-VESSEL shows two *fixed white* lights, one from each masthead, also a *fixed red* light 6 feet above the white light on the mainmast. The vessel is painted red, with the words *Upper Traverse* in white letters on her sides.* p. 263.

CHANNEL PATCH, marked by a light-buoy chequered black and white, and showing a *fixed white* gas light, lies directly in the way of vessels; from the patch, Stone pillar bears S.W. $\frac{3}{4}$ W., distant $2\frac{1}{4}$ miles, with its north extreme just shutting in the highest part of Goose island reef; and a sugarloaf-shaped beacon near St. Jean Port Joli church, is just open eastward of the church, bearing S.E. $\frac{1}{4}$ S. This buoy alters its position about one cable, with the tides, and is frequently adrift. The least depth that could be found on Channel patch in 1886 was 21 feet, although three examinations were made of the locality at slack water; probably a boulder has been carried away from the summit, as the depth recorded in 1827 was only 18 feet. p. 264.

Several shoals with depths of 15 to 18 feet over them lie between Stone pillar and Channel patch; they may all be avoided by keeping the highest part of Goose island reef just open southward of Stone pillar, bearing S.W. by W. This mark must only be kept on while a vessel is southward and westward of Channel patch.

* Originally published in Notice to Mariners, No. 119 of 1888. *See* Admiralty Chart, Bic island to Quebec, No. 310.

St. Thomas.—Two rivers unite and discharge their waters here, thus St. Nicholas flowing from the eastward, and Trinity on and from the westward. The combined stream falls, in a cascade about 30 feet high, to a small tidal, one-third of a mile eastward of the church. A saw mill is in operation on the eastern side of the falls. St. Thomas church is situated on the left bank of rivière du Sud, 3¼ miles southwestward from St Ignace.

The channel from St. Thomas to the river St. Lawrence trends north-eastwardly in one bend, and is generally marked by reed buoys. It nearly dries at low water.

The high water bank near St. Thomas has receded considerably since the survey of 1827, about 500 feet apparently having been washed away, and each year more is broken away by ice and sea. The low-water line, however, is nearly the same as at that time, except that boulders are now visible at low water, beyond the middle eastern entrance of St Thomas bank.

LOWER TRAVERSE LIGHT-VESSEL shows two fixed white lights, one from each mast-head. The vessel is painted *white*, with the words *Lower Traverse* in black letters on her sides.*

UPPER TRAVERSE LIGHT-VESSEL shows two fixed white lights, one from each mast-head, also a fixed red light 6 feet above the white light on the mainmast. The vessel is painted *red*, with the words *Upper Traverse* in white letters on her sides.*

CHANNEL PATCH, marked by a light-buoy (described under p. 264 and *white*, and showing a fixed *white* light, lies directly in the way of vessels from the *main Stone* pillar, bears *S.W.* ½ *W.*, distant 2¼ miles, with its north extreme just shutting in the highest part of Goose island reef, and a mountain-summit beyond over St. Jean Port-au-Baril church. It just open eastward of the church, bearing *S.E.* ½ *S.* This buoy steers its position about one cable with the tides, and is frequently adrift. The least depth that could be found on Channel patch in 1850 was 21 feet, although three examinations were made of the locality at slack water: probably a bowlder has been carried away from the summit, as the depth recorded in 1827 was only 18 feet.

Several shoals with depths of 15 to 18 feet over them lie between stone pillar and Channel patch: they may all be avoided by keeping the highest part of Goose island reef just open southward of *Stone* pillar, bearing *S.W.* by *W.* This mark must only be kept on while a vessel is southward and westward of Channel patch.

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* Originally published in Notice to Mariners, No. 115 of 1855. *Admiralty Chart*, Isle island to Quebec, No. 310.

SEAL ISLANDS consist of a long reef of slate, which is covered at high water, with the exception of three islets, each of which is elevated 6 feet above high water. There are three houses on the eastern islet, with a cross and two high bushes near them; on the western islet a conspicuous spruce tree is surrounded by low bushes. p. 264.

Wood Pillar is 81 feet above high water. The beacon on this islet is not painted, and being partially obscured by trees, can only be seen from a short distance.* p. 265.

Algernon or South Rock is steep-to on all sides but the north-eastern, from which shoal water extends $1\frac{1}{2}$ cables to a depth of 18 feet. A rock, with a depth of 18 feet over it, is situated N.E. $\frac{3}{4}$ E., distant $3\frac{1}{2}$ cables; and a shoal with 26 feet water, N.E. by E., three quarters of a mile, respectively, from South rock.* p. 265.

The highest part of Goose island reef just open southward of South rock lighthouse, bearing S.W. by W. $\frac{1}{2}$ W., leads southward of these shoals; and the whole of Crane island well open southward of Goose island reef, bearing S.W. by W. $\frac{3}{4}$ W., leads southward of South rock, and of the shoals between it and Goose island reef.

GOOSE ISLAND REEF, 2 miles south-westward of Stone pillar, consists of a ledge of rock, $1\frac{2}{3}$ miles in length, trending with the direction of the river. Several small heads are visible at all times of tide; the highest part, a rugged conical mound, 29 feet high, is situated near the western extreme of the reef, and is occasionally surmounted by a beacon. An isolated rock, which dries 2 feet at low water, lies nearly half a mile N.E. by E. from the north-east extreme of Goose island reef. There are five shoal spots between Stone pillar and Goose island reef, with depths of 16, 11, 12, 13, and 18 feet on them, and bearing W.S.W., distant one mile; W. by S. $\frac{2}{3}$ S., $1\frac{1}{2}$ miles; S.W. by W. $\frac{1}{4}$ W., $1\frac{2}{10}$ miles; S.W. by W., $1\frac{1}{2}$ miles; and S.W. $\frac{1}{2}$ W. distant $1\frac{7}{8}$ miles, respectively, from Stone pillar lighthouse. Several small detached rocks lie off the south-eastern side of Goose island reef, but they do not extend more than one cable from it; a rock with a depth of 8 feet, is situated midway between the south-western extreme of Goose island reef and Goose island.

A long spit, with shoals on it varying in depth from 9 to 11 feet, extends S.W. by W. for a distance of nearly $1\frac{1}{2}$ miles, from the south-western extreme of Goose island reef. Stone pillar lighthouse open southward of the highest part of that reef, bearing N.E. by E.,

* *See* Admiralty plan, the Traverses; scale $m = 1{\cdot}36$ inches.

leads southward of this spit; and the deepest water in the channel will be found by passing about 4 cables south-eastward of Goose island reef, and the above spit.

GOOSE ISLAND is composed of wooded hilly ground, divided by a valley into north and south ranges; near the south-western extreme are two round summits, elevated 203 feet above high water. A chain of hillocks, that from a distance appear like islands, and on which are several conspicuous houses, with barns near, extends south-westward from the northern range. From an elevation of 168 feet, the northern range falls in cliffy banks, and at its north-eastern extreme is a large white barn, which is very conspicuous from all northerly directions. A large sugarloaf beacon, painted red, stands on a small detached islet close southward of the north-eastern extreme of Goose island. p. 266.

The meadows of Goose island, extending $4\frac{1}{2}$ miles south-westward from its south-west extreme, connect it with Crane island; the meadows are only just above high water of ordinary spring tides, and are intersected by numerous streams, that have cut deep channels in the mud, and are impassable between half flood and half ebb.

These meadows yield a large quantity of coarse hay, which is divided among the inhabitants of Goose and Crane islands, and is a profitable source of income to these people, who export the hay to the villages on the shores of the St. Lawrence, and to Quebec. After the harvest the meadows are covered with haystacks, which, from a distance, resemble small houses, and are erected on frame-work to prevent the loss that would otherwise be occasioned by exceptionally high tides.

Several rocks lie off the southern shore of Goose island, all of which cover at high water, except Rocher aux Grêlons (formerly miscalled Chapel rock), which is 4 feet above high water, and situated on the outer edge of the shore that dries at low water; and Hospital rock, which is 10 feet high. Chapel rock is on the meadows, and is named from a church which formerly stood there, the foundations of which are still to be seen. A wooden pyramidal beacon, painted white, and about 30 feet high, stands on the southern shore of Goose island meadows at a little more than 2 miles westward of Hospital rock.

CRANE ISLAND rises to an elevation of 132 feet, and is generally flat in outline. The lower part of the land is cultivated, but the summit and south-western slope are wooded. Macpherson House, and the barns near, are conspicuous objects at the north-eastern extreme of the island, and numerous beacons are erected on p. 266.

GOOSE ISLAND is separated by channel only a mile wide, from the south-western extremity of Bonaventure Island. It is about 1½ miles long, and is of a conical form, rising to a height of 300 feet above the sea. It is covered with grass, and is the resort of numerous flocks of wild geese, which breed upon it. The shores are steep, and the water deep close to the rocks.

CRANE ISLAND, which is 1½ miles long, and is of a conical form, rises to a height of 175 feet above the sea. It is covered with grass, and is the resort of numerous flocks of wild geese, which breed upon it. The shores are steep, and the water deep close to the rocks.

the southern shore ; on the northern side there is an almost continuous line of houses, with a church, built of brick and surmounted by a spire, in the middle of them. This church can rarely be seen from South channel.

Prohibited Anchorage.—Between the two sets of sugarloaf beacons which mark the limits of the prohibited anchorage southward of Crane island, two diamond shaped beacons have been erected, which in line led to the white buoy previously moored at the south-western end of Beaujeu bank, and now withdrawn. p. 266

BEAUJEU BANK.—Light-Buoys.—The north-eastern extreme of Beaujeu bank is marked by a light-buoy, painted red and black in horizontal stripes, and showing a fixed white gas light, moored with L'Islet church bearing E. $\frac{1}{8}$ N., distant 4 miles ; and St. Ignace church, S. by W. $\frac{1}{4}$ W.* And the south-western extreme by a light-buoy painted white, and showing a fixed white gas light ; moored with Crane island lighthouse bearing S.W. by W. $\frac{3}{4}$ W., distant 2 miles ; and St. Ignace church S.S.E. $\frac{3}{4}$ E., Ely.*†

Buoys.—A buoy, painted red, is moored in 24 feet on the northern side of Beaujeu channel, nearly 9 cables westward of the light-buoy at the north-eastern extreme of Beaujeu bank ; and another buoy, painted red, is moored in the same depth, upwards of one cable westward of the light-buoy at the south-western extreme of that bank, and on the western side of the narrow channel westward of Beaujeu bank.†

BEAUJEU CHANNEL.—The best mark for the channel northward of Beaujeu bank is, Stone pillar lighthouse in line with the southern extreme of the highest part of Goose island reef, bearing N.E. by E.† p. 267.

Bank of St. Thomas.—The mark, Belle Chasse island and St. Vallier point touching, can seldom be seen ; but the apparent northern extreme of the range of hills on the southern shore, just open southward of Crane island lighthouse bearing E. by N. $\frac{3}{4}$ N., will lead northward of St. Thomas bank in the deepest water. A buoy, painted black, marks a shoal with a depth of 16 feet, on the southern side of the channel abreast Crane island lighthouse ; from this buoy that lighthouse bears N. by E. $\frac{1}{3}$ E., distant $6\frac{2}{3}$ cables.† p. 268.

The northern edge of the shoal ground off St. Jean Port Joli is distant only half a mile south-eastward of Channel patch ; two shoals, p. 269.

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* Originally published in Notice to Mariners, No. 277 of 1886.

† *See* Admiralty plan, The Traverses, No. 318, Scale $m = 1{\cdot}36$ inches.

with depths of 19 feet, and 8 fathoms $1\frac{1}{2}$ cables north-west from them, having been found in that position.

Vessels should not proceed northward of Channel patch, several shoals having been found between it and Stone pillar lighthouse. p. 270.

To pass Northward of Beaujeu bank.—When Hospital rock bears N.W. by N. bring Stone pillar lighthouse just open southward of the southern extreme of the highest part of Goose island reef, bearing N.E. by E.; leading between the light-buoy at the north-eastern end of Beaujeu bank and the red buoy off Goose island, also close to the white light-buoy marking the south-western end of Beaujeu bank. Leave the white light-buoy on the port hand, bringing the beacon on Goose island meadows in line with the middle of La Grosse Montagne (the westernmost hill of Goose island), bearing N.N.E. $\frac{3}{8}$ E., to pass between that buoy and the red buoy to the westward. When Channel rock is visible, the beacon should be its own height open eastward of the rock, when this leading mark is on. p .270.

The ebb stream, southward of the Pillars, attains a velocity of $5\frac{1}{4}$ knots per hour at spring tides : and of $4\frac{1}{2}$ knots past Channel patch. p 273.

Wye Rock, with a depth of one foot over it at low water, is about two cables long in the direction of the river, and half a cable broad ; it is separated from St. Thomas bank by a channel nearly half a mile wide, but, with depths greater than 3 fathoms, only one cable wide. p 273

A buoy, painted black, is moored in $5\frac{3}{4}$ fathoms, north-westward of Wye rock ; from this buoy St. Thomas point bears South, distant 8 cables.

The mark for leading northward of St. Thomas bank, *see* p. 11, also leads in the deepest water in South channel, northward of Wye rock ; the chapel near the summit of cape Tourmente in line with the flagstaff on Grosse isle, bearing N. by W. $\frac{7}{8}$ W., leads eastward of Wye rock in 15 feet water ; and the same chapel, in line with the western wharf on Grosse isle, bearing N. by W. $\frac{1}{2}$ W., leads westward of that rock. The Seminaire is now rarely visible from South channel, except when the sun is shining on it.

Trou de Berthier.—The church at Berthier has a single spire, and is situated about a quarter of a mile southward of Trou de Berthier ; which latter has a wharf at its eastern entrance point, with a depth of 14 feet close to its outer end at low water. The former site of the church at this place is now occupied by a large house with a flagstaff near it.

Rocks.—Two rocks, with depths of one foot and 6 feet over them, are situated 4 cables offshore between Berthier East point and Berthier wharf. From the one foot rock, Belle Chasse lighthouse bears W. $\frac{2}{3}$ S., distant $1\frac{1}{2}$ miles; and Berthier East point, S.E. by S.; from the other rock, Belle Chasse light bears W. $\frac{1}{2}$ S., distant $1\frac{1}{3}$ miles. These rocks are heads of a narrow ledge with depths of 9 to 17 feet over it, running parallel to the shore, and with its north-eastern extreme bearing E.N.E., distant a quarter of a mile from the above one foot rock. Belle Chasse light, kept bearing southward of W. by S. $\frac{1}{2}$ S. leads northward of all the above shoal water.

BELLE CHASSE ISLAND is composed of several bare gray rocks.

SOUTH CHANNEL, ABOVE CRANE ISLAND.—The islands in order westward of Crane island (Île aux Grues), are Haystack (Île Ronde), Mill (Île aux Chevaux), Race (Île Longue), Margaret, Cliff (Île à Sottise) and Grosse islands. The highest is Grosse isle, which is elevated 214 feet above high water. p. 275.

CRANE ISLAND SPIT has 5 feet water over the shallowest part, and extends W. by S. $\frac{1}{4}$ S., with less depths than 18 feet, to a distance of $1\frac{3}{4}$ miles from point aux Pins. The western extreme of this spit is marked by a red buoy, moored with two beacons on the southern shore of Crane island in line, bearing E. $\frac{2}{3}$ N. The eastern of these beacons, painted red, is situated $1\frac{1}{4}$ cables westward of Crane island wharf; and the western, painted white, one cable further westward. These beacons in line, bearing E. $\frac{2}{3}$ N., lead, in not less than 24 feet water, southward of Crane island spit, but, with that depth, only as far westward as the above red buoy. The southern extreme of Crow island in line with the northern extreme of Middle island, bearing N.E. $\frac{3}{4}$ N., leads north-westward of this buoy and the spit. p. 276.

A bank, having several shoals with 20 to 23 feet water on them, now joins Crane island spit to the bank extending south-westward from Margaret tail.

MARGARET TAIL.—Light-Buoy.—A light-buoy, painted red, and showing a *fixed white* gas light is moored in $4\frac{1}{4}$ fathoms, two cables south-westward of a 20 feet patch, at the south-western extreme of Margaret tail; from this buoy, the south-western extreme of Margaret island bears N. E. $\frac{1}{4}$ N., distant $1\frac{4}{10}$ miles, and the western extreme of small islet south-westward of Grosse isle N.W. $\frac{1}{4}$ N. Vessels entering the Quarantine ground should leave this light-buoy

on the starboard hand. If from any cause this buoy is removed it will be replaced by a red can buoy. The church on Crane island in line with the southern extreme of Haystack island, bearing E. by N. $\frac{3}{4}$ N., leads southward of Margaret tail and the above buoy, but in a least depth of 22 feet only. The north-western extreme of Two Heads island in line with the western extreme of Cliff island, bearing N.E. $\frac{1}{2}$ N., leads westward of Margaret tail, and between it and Grosse isle patch.

Grosse I. Patch.—The buoy marking the north-eastern end of Grosse isle patch, is painted black and white, in vertical stripes.

The rock southward of Grosse isle, and lying N.W. distant nearly 3 cables from the above buoy, is marked by a buoy, painted black and white in vertical stripes.

A rock with 15 feet water over it lies westward of Grosse isle patch, and with the outer end of Grosse isle west wharf bearing N.E. by N., distant 6 cables. The new Episcopal church at Grosse isle in line with the inner end of the west wharf, bearing N. by E. $\frac{1}{2}$ E., leads in $3\frac{3}{4}$ fathoms between this rock and the western extreme of Grosse isle patch; and the summit of Margaret island in line with the northern extreme of Cliff island, bearing E. by N. $\frac{1}{2}$ N., leads northward of Grosse island patch to the Quarantine anchorage. A good cross mark for that anchorage is to have the Episcopal church just open eastward of West wharf. The whole of Race island a little open southward of Margaret island, bearing E. by N. $\frac{3}{4}$ N., leads in 23 feet southward of Grosse isle patch. p. 277.

GROSSE ISLE may be readily recognised by the number of buildings forming the Quarantine establishment. Two piers are built on the southern shore, one near the western extreme, the other near the middle of the island. The hospital, a conspicuous brick building, stands near the eastern extreme, and the Superintendent's house is immediately behind the flagstaff. The churches visible from the South channel are the Episcopal church, a brown wooden building, with a low tower, standing on an eminence immediately north-eastward of West wharf; and the Roman Catholic church, with a small spire, situated near the middle of the southern shore, and visible only from the eastward and westward; being hidden from the southward by a rocky mound in front of it.

Grosse Isle Tail is now joined by a bar, having no more than 16 feet over it at low water, to the banks of Madame island. Two shoals with 11 feet water on them lie on this bar about midway

between Grosse isle tail and the banks of Madame island. For crossing the bar, the best mark is the western fall of the hill over cape Tourmente in line with the small rock near the eastern extreme of Reaux island, bearing N. $\frac{3}{4}$ W.

BANKS OF MADAME ISLAND.—Light-Buoy.—A light-buoy, painted red, moored in 6 fathoms, and showing a *fixed white* gas light, marks the south-western edge of the banks of Madame island. From this buoy Belle Chasse lighthouse bears about E. by S., distant $3\frac{1}{3}$ miles; and south-western extreme of Madame island N.E. by E. $\frac{1}{4}$ E. The red can buoy, previously moored in the above position, has been withdrawn. p. 278.

All light-buoys in the river St. Lawrence are withdrawn earlier in the autumn, and replaced later in the spring, than the ordinary wooden buoys. Wooden buoys mark the positions of the light-buoys until the end of the season.

Beauport Bank Buoy.—A can buoy, painted red, is moored in 5 fathoms, to indicate the southern edge of Beauport bank. p. 280.

QUEBEC.—Time Signal.—A time signal is established at the citadel. The signal is made once daily, except on Sundays, and is a ball, which is hoisted close up as preparatory at 5 minutes before signal, and dropped at 1h. 0m. 0s. p.m. mean time of the 75th meridian, equivalent to 6h. 0m. 0s. p.m. Greenwich mean time. p. 283.

NORTH CHANNEL.—The northern shore of the river, westward of St. Paul bay, falls steeply from the summits of high wooded hills, that attain an elevation of 2,650 feet, close westward of Petite rivière. At $1\frac{1}{2}$ miles south-westward from cape La Baie, a small strip of low flat land, lying between the foot of the hills and high water mark, commences, and extends westward to Grande point, a distance of 5 miles. Numerous houses, forming the parish of Petite rivière, are built on this flat; and among them is a church, with a single spire, dedicated to St. François Xavier. Several valleys indent the hills, the most marked being about 2 miles eastward of Petite rivière church. p. 285.

La Petite Butte ronde, a conical wooded hill, 774 feet high, rises above cape Maillard, and is conspicuous from the eastward or westward. Two small shingle beaches, named Petit Abatis and L'Abatis, are situated westward of cape Maillard; and on L'Abatis, which is $1\frac{1}{2}$ miles distant from that cape, there are several conspicuous houses. At Saut au Cochon there is another group of houses, a small p. 287

church, a disused mill, and a wharf which marks the limit of the low water line. From cape La Baie westward to Saut au Cochon, the flat which dries at low water extends about three quarters of a mile from high water mark, and the water deepens to 5 fathoms about 2 cables beyond the edge. Westward of Saut au Cochon the low water line extends only a short distance from high water mark. The first notch in the hills northward of mount Eboulements in line with the northern extreme of Coudres island, bearing N.E. $\frac{3}{4}$ É., leads in upwards of 5 fathoms, southward of the shoal water off the northern shore.

A Ledge has been discovered extending south-eastward from the shore at 4 cables north-eastward of cape Gribanne, with depths of 8, 12, and 21 feet, at distances of 3, 4, and 5 cables, respectively, from the shore. The houses at L'Abatis well open southward of the wharf at Saut au Cochon, bearing N.E. $\frac{1}{4}$ N., leads close southward of this ledge, in about 7 fathoms.

Landing may be effected in boats after half flood, at L'Abatis, Petit Abatis, and Grande pointe, and generally speaking along the coast of Petite rivière; but care must be taken in approaching the shore to avoid the boulders that stand above the general level of the flat ground between high and low water marks.

LIGHTS.—From a mast, erected on a pier at cap à l'Aigle, on the northern side of Coudres island, a *fixed white* light is exhibited. Similar lights are also shown from piers built at cap à l'Aigle, eastward of Murray bay; at point au Pic, westward of that bay; and at cape St. Joseph, on the shore northward of Coudres island.

St. Paul Bay Lighthouse.—The lighthouse in St. Paul bay is erected on a square block of timber, situated near low water mark in the middle of the bay, and in a depth of about 9 feet.

Cape Labaie.—A red buoy marks the eastern extreme of the shoal ground off cape Labaie.

COUDRES ISLAND.—A new church, dedicated to St. Louis, has been built close to the site of the old church. It has two small spires at its western end. p. 287.

Neptune Rock (Rocher de Saut-au-Cochon) has two heads both of which are one foot above high water spring tides. p. 289.

Burnt Cape Ledge.—The western extreme is an islet 12 feet above high water, and on the reef south-eastward of this islet a hut has been built, the roof of which is 8 feet above high water. The black buoy marking the north-eastern extreme of Brûlé bank, is

moored in 4 fathoms, with Cape Brûlé principal lighthouse bearing W. by S. $\frac{1}{8}$ S., distant $1\frac{8}{10}$ miles.

The depth of 18 feet, at the north-eastern end of Brûlé bank is still on the line of the western end of Two Heads island in one with the western end of Burnt Cape ledge, bearing S. $\frac{7}{8}$ E.

EASTERN NARROWS.—The passage now is only $1\frac{1}{2}$ cables wide with depths greater than 3 fathoms, and Traverse spit is apparently extending north-eastward. A black buoy marks the eastern side of the Narrows, at the south-western extreme of Brûlé banks, in 18 feet water; and a red buoy is moored near the north-eastern end of Traverse spit, and on the western side of the Narrows; depths of less than 18 feet extended $1\frac{1}{4}$ cables north-eastward of this buoy in 1886.

Three lighthouses have been erected on cape Brûlé, there are no lighthouses on cape Rouge. p. 290.

ORLEANS ISLAND.—St. François Lighthouses.—The south-western lighthouse, 30 feet high, and 110 feet above high water, stands in a field, half a mile south-westward of St. François church; and the north-eastern lighthouse, 28 feet high, is situated at high water mark, a quarter of a mile eastward of that church. Beacons have been erected near both these lighthouses, which in line, bearing S.W. by W. $\frac{1}{4}$ W., lead close southward of Traverse spit, but over a shoal with 12 feet water on it, lying a quarter of a mile north-eastward of the chequered buoy on West sand.

WESTERN NARROWS are only $1\frac{1}{2}$ cables wide with depths over 18 feet, and are comprised between West sand and Traverse spit. West sand has extended eastward a considerable distance since the survey of 1827, and its north-eastern extreme, with a depth of 12 feet, is now 3 cables north-eastward of the chequered buoy. The southern extremes of Orleans island just open of each other, bearing S.W. $\frac{3}{4}$ W., leads northward of West sand; and the islet at the west extreme of Grosse isle in line with the eastern extreme of Reaux island, bearing S.E. $\frac{3}{4}$ E., leads close eastward of that sand. p. 290.

DIRECTIONS FOR NORTH CHANNEL.—After passing Saut-au-Cochon the houses at L'Abatis must be kept well open of the wharf at Saut-au-Cochon, bearing N.E. $\frac{1}{4}$ N., to clear the ledge eastward of cape Gribanne; after which the northern shore should be kept well onboard until abreast cape Brûlé. The leading lighthouses on that cape, (the northern and the eastern of the three), must then be brought in line, bearing N.N.E. $\frac{3}{4}$ E., and kept so through Eastern Narrows, between the buoys there, and until St. François p. 291.

beacons or lighthouses are in line, bearing S.W. by W. $\frac{1}{4}$ W. Then steer for those lighthouses, with the upper one slightly open southward of the lower one, and before the islet at the western extreme of Grosse isle is in line with the eastern extreme of Reaux island, bearing S.E. $\frac{3}{4}$ E., the southern extremes of Orleans island must be brought nearly in line, bearing S.W. $\frac{3}{4}$ W., to pass between West sand and Traverse spit. When St. Vallier church opens westward of Madame island, or St. Joachim church is shut in with Orleans island, haul a little to the southward, and keep a quarter of a mile distant from Orleans island further on.

Omit.—Montreal.—Two fixed *red* leading lights on Albert pier. p. 309.

MONTREAL.—Time Signal.—A time signal is established on the tower of the harbour commissioners' building. The signal is made once daily, except on Sundays, during the season of navigation; and is a ball, which is hoisted close up as preparatory about 5 minutes before signal, and dropped at noon mean time of the 75th meridian, equivalent to 5h. 0m. 0s. p.m. Greenwich mean time. p. 310.

Hydrographic Office, Admiralty, London,
17*th July* 1888.